IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Confirmation No.: 7365

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Art Unit:

1623

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Examiner:

Atty. Docket: 0942.4980006/RWE/MTT

Appl. No. 10/026,952

In re application of:

Filed: December 27, 2001

Nazarenko et al.

Primers and Methods for the For:

Detection and Discrimination of

Nucleic Acids

Information Disclosure Statement

Commissioner for Patents Washington, D.C. 20231

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. A copy of each document is proveded

In accordance with 37 C.F.R. § 1.98(a)(3), Applicants' undersigned representative submits the following, in regards to non-English language document AS4 cited on Form PTO 1449:

Document AS4 is in a foreign language. An English language translation is not readily available.

Where the publication date of a listed document does not provide a month of publication, the year of publication of the listed document is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the month of publication is not in issue. Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

This Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. No statement or fee is required.

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449, and indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Robert W. Esmond

Attorney for Applicants Registration No. 32,893

Date: October 11, 7002

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FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

APPLICATION NO. 10/026,952 ATTY. DOCKET NO. 0942.4980006/RWE/MTT APPLICANT Nazarenko et al. GROUP

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	AN1	EP (0 144 914	11/29/1984	Europe				Yes No Yes
	A01	ED	0 119 448	02/10/1984	Europe				No
	AP1		0 201 184	03/27/1986	Europe				Yes No
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	AL3	WO :	90/03446	04/5/1990	WIPO			Yes No
	АМЗ	wo :	92/06188	04/16/1992	WIPO	·		Yes No
	AN3	wo :	92/06200	04/16/1992	WIPO			Yes No
	A03	WO :	92/14845	09/03/1992	WIPO			Yes No
	AP3	EP (0 684 315	03/13/1995	Europe			Yes No
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	AS	<u>3</u>	Clegg, R.M., "Fluorescence Resonance Energy Transfer and Nucleic Acids," Enzymol. 211:353-388, Academic Press Inc. (1992)					
	AT	3	solution b	y fluorescenc	bserving the helical geome e resonance energy transfe Academy of Sciences of the	r," Proc. N	Natl. Acad	
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	AM4	EP (0 436 644 B1	04/17/1996	Europe			Yes No
	AN4	EP (0 795 612 A2	09/17/1997	Europe			Yes No
	A04	WO	98/35060	08/13/1998	WIPO			Yes No
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Forster, Z., "Experimentelle und theoretische Untersuchung des zwischenmolekularen Übergangs von Elektronenanregungsenergie," Z. Naturforsh 4A:321-327, Verlag der Zeitschrift für Naturforschung (1949)						urforsh		
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	AS	<u>5</u>		Houts, G.E., et al., "Reverse Transcriptase from Avian Myeloblastosis Virus," J. Virol. 29:517-522, American Society for Microbiology (1979)						
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	AS	<u>6</u>	sequencing	Ju, J., et al., "Fluorescence energy transfer dye-labeled primers for DNA sequencing and analysis," <i>Proc. Natl. Acad. Sci. USA 92</i> :4347-4351, National Academy of Sciences of the USA (1995)					
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	AT	7	reverse tr	M.L., et al., ranscriptase la rd University I	"Isolation of cloned acking ribonuclease H Press (1988)	Moloney murine activity," Nuc.	leukemia v	virus es. 16:265-
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	AS	8	amplified hybridiza	Kwoh, D.Y., et al., "Transcription-based amplification system and detection of amplified human immunodeficiency virus type 1 with a bead-based sandwich hybridization format," Proc. Natl. Acad. Sci. USA 86:1173-1177, National Academ of Sciences of the USA (1989)					
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	AT	9	Acids by E		"Structure-Specific Endonuc A Polymerases," <i>Science 260</i> (1993)			
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Page 10 of 16 ATTY. DOCKET NO. 0942.4980006/RWE/MTT APPLICATION NO. 10/026,952 FORM PTO-1449 APPLICANT Nazarenko et al. INFORMATION DISCLOSURE STATEMENT FILING DATE GROUP December 27, 2001 1623

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	AS	10	Polymerase	Mullis, K., et al., "Specific Enzymatic Amplification of DNA In Vitro: The Polymerase Chain Reaction," <i>Cold Spring Harbor Symp. Quant. Biol.</i> 51:263-273, Cold Spring Harbor Laboratory Press (1986)				
	AT	10	Inhibit the Protein,"	Nakaya, T., et al., "Decoy Approach Using RNA-DNA Chimera Oligonucleotides To Inhibit the Regulatory Function of Human Immunodeficiency Virus Type 1 Rev Protein," Antimicrobiol. Agents Chemother. 41:319-325, American Society For Microbiology (1997)				
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	AS	11	backbone-:	Ozaki, H., and McLaughlin, L.W., "The estimation of distances between specific backbone-labeled sites in DNA using fluorescence resonance energy transfer," Nucl. Acids Res. 20:5205-5214, Oxford University Press, Oxford, England (1992)					
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	ATTY. DOCKET NO. 0942.4980006/RWE/MTT	APPLICATION NO. 10/026,952	
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO. 0942.4980006/RWE/MTT	APPLICATION NO. 10/026,952
APPLICANT Nazarenko <i>et al</i> .	
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In re application of:

Nazarenko et al.

Appl. No. 10/026,952

Filed: December 27, 2001

For: Primers and Methods for the

Detection and Discrimination of

Nucleic Acids

Confirmation No. 7365

OCT 1 5 2002

Art Unit:

1623

TECH CENTER 1600/2900

Examiner: To

To be assigned

Atty. Docket: 0942.4980006/RWE/MTT

First Supplemental Information Disclosure Statement

Commissioner for Patents Washington, D.C. 20231

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. The numbering on this First Supplemental Information Disclosure Statement is a continuation of the numbering in Applicants' Information Disclosure Statement filed herewith in connection with the above-captioned application. A copy of each document is also provided.

Where the publication date of a listed document does not provide a month of publication, the year of publication of the listed document is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the month of publication is not in issue. Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered. This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist.

This First Supplemental Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. No statement or fee is required.

Consideration of the cited documents and making the same of record in the prosecution of the above-identified application is respectfully requested. The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLOSTEIN & FOX P.L.L.O

Rol

Robert W. Esmond

Attorney for Applicants Registration No. 32,893

Date: October 1, 2002

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Registered Patent Agents' Karen R. Markowicz Andrea J. Kamage Nancy J. Leith Ann E. Summerfield Helene C. Carlson Mary B. Tung Katrina Y. Pei John J. Figueroa Timothy A. Doyle Jennifer R. Mahalingappa

Admitted only in Maryland Admitted only in Virginia Admitted only in Texas Practice Limited to

October 11, 2002

WRITER'S DIRECT NUMBER: (202) 371-2560 **INTERNET ADDRESS:** RESMOND@SKGF.COM

Commissioner for Patents Washington, D.C. 20231

Re:

U.S. Utility Patent Application

Appl. No. 10/026,952; Filed: December 27, 2001

Primers and Methods for the Detection and Discrimination of Nucleic

Acids

Inventors

Nazarenko et al.

Our Ref:

0942.4980006/RWE/MTT

Hand Carry to

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OCT 1 5 2002

Sir:

TECH CENTER 1600/2900

Transmitted herewith for appropriate action are the following documents:

- 1. Information Disclosure Statement;
- 2. List of cited references on Form PTO-1449 (16 sheets);
- 3. A copy of each reference cited on Form PTO-1449 (70 references);
- 4. First Supplemental Information Disclosure Statement;
- 5. List of cited references on Form PTO-1449 (1 sheet);
- 6. A copy of each reference cited on Form PTO-1449 (4 references);
- 7. Second Supplemental Information Disclosure Statement;
- 8. List of cited references on Form PTO-1449 (2 sheets);
- 9. A copy of each reference cited on Form PTO-1449 (4 references);
- 10. Third Supplemental Information Disclosure Statement;
- 11. List of cited references on Form PTO-1449 (2 sheets);
- 12. A copy of each reference cited on Form PTO-1449 (6 references);
- 13. Fourth Supplemental Information Disclosure Statement;
- 14. List of cited references on Form PTO-1449 (6 sheets);
- 15. A copy of each reference cited on Form PTO-1449 (19 references);
- 16. Fifth Supplemental Information Disclosure Statement;
- 17. List of cited references on Form PTO-1449 (1 sheet);

Sterne, Kessler, Goldstein & Fox P.L.L.c.: 1100 New York Avenue, NW: Washington, DC 20005: 202.371.2600 f 202.371.2540: www.skgf.com

Commissioner for Patents October 11, 2002 Page 2

- 18. A copy of each reference cited on Form PTO-1449 (3 references); and
- 19. One (1) Return Postcard.

It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER GOLDSTEIN & FOX P.L.L.C.

for:

Robert W. Esmond

Attorney for Applicants Registration No. 32,893

RWE/MTT/dnk Enclosures

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In re application of:

Nazarenko et al.

Appl. No. 10/026,952

Filed: December 27, 2001

For: Primers and Methods for the

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Nucleic Acids

Confirmation No. 7365 RECEIVED

Art Unit:

1623

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Examiner:

To be assing CH CENTER 1600/2900

Atty. Docket: 0942.4980006/RWE/MTT

Second Supplemental Information Disclosure Statement

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Sir:

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Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered. This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist.

This Second Supplemental Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. No statement or fee is required.

Consideration of the cited documents and making the same of record in the prosecution of the above-identified application is respectfully requested. The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

Robert W. Esmond

Attorney for Applicants Registration No. 32,893

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Nazarenko et al.

Appl. No. 10/026,952

Filed: December 27, 2001

For: Primers and Methods for the

Detection and Discrimination of

Nucleic Acids

Confirmation No. 7365

Art Unit:

1623

Examiner:

To be assigned

Atty. Docket: 0942.4980006/RWE/

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OCT 1 5 2002

TECH CENTER 1600/2900

Third Supplemental Information Disclosure Statement

Commissioner for Patents Washington, D.C. 20231

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. The numbering on this Third Supplemental Information Disclosure Statement is a continuation of the numbering in Applicants' Second Supplemental Information Disclosure Statement filed herewith in connection with the above-captioned application. A copy of each document is also provided.

Where the publication date of a listed document does not provide a month of publication, the year of publication of the listed document is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the month of publication is not in issue. Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered. This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist.

This Third Supplemental Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. No statement or fee is required.

Consideration of the cited documents and making the same of record in the prosecution of the above-identified application is respectfully requested. The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

Robert W. Esmond Attorney for Applicants Registration No. 32,893

() ofoser 11, 2002

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Page 1 of 2 ATTY. DOCKET NO. APPLICATION NO. 0942.4980006/RWE/MTT 10/026,952 FORM PTO-1449 APPLICANT Nazarenko et al. THIRD SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT FILING DATE GROUP December 27, 2001 1623 U.S. PATENT DOCUMENTS EXAMINER INITIAL DOCUMENT DATE NAME CLASS SUB-FILING DATE NUMBER CLASS ΑĄ AΒ AC AD ΑE TECH CENTER 1600/2900 AF AG AΗ ΑI ΑJ ΑK FOREIGN PATENT DOCUMENTS EXAMINER INITIAL DOCUMENT DATE COUNTRY CLASS SUB-TRANSLATION NUMBER CLASS Yes ALNo Yes AM No Yes AN No Yes ΑO No Yes ΑP No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Rye, H.S., et al., "Stable fluorescent complexes of double-stranded DNA with bisintercalating asymmetric cyanine dyes: properties and applications, " Nucl. Acids 18 Res. 20:2803-2812, Oxford University Press (1992)

Varani, G., "Exceptionally Stable Nucleic Acid Hairpins," Annu. Rev. Biophys. Biomol. Struct. 24:379-404, Annual Reviews Inc. (1995)

Walder, R.Y., et al., "Use of PCR primers containing a 3'-terminal ribose residue to prevent cross-contamination of amplified sequences," Nucl. Acids Res. 21:4339-<u> 18</u> 4343, Oxford University Press (1993)

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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FORM PTO-1449

THIRD SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

APPLICATION NO ATTY. DOCKET NO. 10/026, 15P 0942.4980006/RWE/MTT APPLICANT

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Nazarenko et al.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Nazarenko et al.

Appl. No. 10/026,952

Filed: December 27, 2001

For: Primers and Methods for the

Detection and Discrimination of

Nucleic Acids

Confirmation No. 7365

Art Unit:

1623

Examiner:

To be assigned

Atty. Docket: 0942.4980006/RWE/MTT

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TECH CENTER 1600/2900

Fourth Supplemental Information Disclosure Statement

Commissioner for Patents Washington, D.C. 20231

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. The numbering on this Fourth Supplemental Information Disclosure Statement is a continuation of the numbering in Applicants' Third Supplemental Information Disclosure Statement filed herewith in connection with the above-captioned application. A copy of each document is also provided.

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Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.

C:

Robert W. Esmond

Attorney for Applicants Registration No. 32,893

Date: (tober U. 2002

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Page 1 of 6 APPLICAT ATTY. DOCKET NO. 0942.4980006/RWE/MTT FORM PTO-1449 APPLICANT Nazarenko et al. FOURTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT FILING DATE GROUP December 27, 2001 1623 TEC U.S. PATENT DOCUMENTS EXAMINER INITIAL DOCUMENT DATE NAME CLASS SUB-FILING DATE NUMBER CLASS AΑ AB AC AD ΑE AF AG AΗ ΑI ΑJ ΑK FOREIGN PATENT DOCUMENTS EXAMINER INITIAL DOCUMENT DATE COUNTRY CLASS SUB-TRANSLATION NUMBER CLASS Yes ALNo Yes ΑM No Yes AN6 WO 97/39008 10/23/1997 WIPO No Yes ΑO No Yes ΑP No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Blok, H.J. and Kramer, F.R., "Amplifiable hybridization probes containing a molecular switch," *Mol. Cell. Probes* 11:187-194, Academic Press, Ltd. (1997) AR <u> 20</u> · Giesendorf, B.A.J., et al., "Molecular beacons: a new approach for semiautomated AS <u>20</u> mutation analysis," Clin. Chem. 44: 482-486, American Association for Clinical Chemistry (1998) Haas, S., et al., "Primer design for large scale sequencing," Nucl. Acids Res. ΑT <u>20</u> 26:3006-3012, Oxford University Press (1998) EXAMINER DATE CONSIDERED

Page 2 of 6

FORM PTO-1449

FOURTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO. 0942.4980006/RWE/MTT

APPLICATION NO.

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Nazarenko et al.

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EXAMINER

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FORM PTO-1449

FOURTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

APPLICATION NO ATTY. DOCKET NO. 0942.4980006/RWE/MTT 10/026, APPLICANT

Nazarenko et al. FILING DATE

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FOURTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

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FORM PTO-1449

FOURTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO. APPLICATION NO. 0942.4980006/RWE/MTT 10/026,95 APPLICANT Nazarenko et al. OCT 1 5 2002 FILING DATE GROUP

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FOURTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

	Page 6 of 6
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APPLICANT Nazarenko et al.	OCT 1 5 2002
FILING DATE December 27, 2001	GROUP TECH CENTER 1600/200

								
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

RECEIVED

In re application of:

Nazarenko et al.

Appl. No. 10/026,952

Filed: December 27, 2001

For: Primers and Methods for the

Detection and Discrimination of

Nucleic Acids

Confirmation No. 7365

OCT 1 5 2002

Art Unit:

1623

IECH UENTER 1600/2900

Examiner:

To be assigned

Atty. Docket: 0942.4980006/RWE/MTT

Fifth Supplemental Information Disclosure Statement

Commissioner for Patents Washington, D.C. 20231

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. The numbering on this Fifth Supplemental Information Disclosure Statement is a continuation of the numbering in Applicants' Fourth Supplemental Information Disclosure Statement filed herewith in connection with the above-captioned application. A copy of each document is also provided.

Where the publication date of a listed document does not provide a month of publication, the year of publication of the listed document is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the month of publication is not in issue. Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

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This Fifth Supplemental Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. No statement or fee is required.

Consideration of the cited documents and making the same of record in the prosecution of the above-identified application is respectfully requested. The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Robert W. Esmond

Attorney for Applicants Registration No. 32,893

Date: October 1, 2002

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Suite 600

Washington, D.C. 20005-3934

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Page 1 of 1 ATTY. DOCKET NO. APPLICATION N 0942.4980006/RWE/MTT FORM PTO-1449 APPLICANT OCT 1 5 2002 FIFTH SUPPLEMENTAL Nazarenko et al. INFORMATION DISCLOSURE STATEMENT FILING DATE GROTECH CENTER 1600/2900 December 27, U.S. PATENT DOCUMENTS EXAMINER INITIAL DOCUMENT NUMBER DATE NAME CLASS SUB-FILING DATE CLASS AΑ AΒ AC AD ΑE AF AG ΑH ΑI ΑJ ΑK FOREIGN PATENT DOCUMENTS EXAMINER INITIAL DOCUMENT NUMBER DATE COUNTRY CLASS SUB-TRANSLATION CLASS Yes ΑL No Yes ΑM No AN Yes No AO Yes No Yes ΑP No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Hu, X., et al., "Fluorescence-Based Single-Tube Assays to Rapidly Detect Human AR <u>26</u> Gene Mutations, " Strategies 13:71-73, Stratagene (March 2000) Nazarenko, I., et al., "Multiplex quantitative PCR using self-quenched primers labeled with a single fluorophore, " Nucl. Acids Res. 30:e37 (seven pages), Oxford AS 26 University Press (April 2002) Nazarenko, I., et al., "Effect of primary and secondary structure of oligodeoxyribonucleotides on the fluorescent properties of conjugated dyes," ΑT <u>26</u> Nucl. Acids Res. 30:2089-2095 (May 2002) EXAMINER DATE CONSIDERED **EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. line through citation if not in conformance and not considered. Include copy of this form with next